Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for retrieving a record in a hierarchical set of ~~the~~ records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the

hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Claim 2 (original): The method of claim 1, wherein applying comprises:

selecting those of the record in the hierarchical set of the records having a tag that matches the key.

Claim 3 (original): The method of claim 2, wherein identifying one of the records comprises:

receiving a selection of the one of the records from a user; and

receiving a command from the user; and wherein

modifying the tag is based on the command from the user.

Claim 4 (original): The method of claim 3, wherein each of the records has one or more fields, further comprising:

displaying a field of each of the retrieved records on a display, wherein the position of each of the fields on the display represents the hierarchical depth and hierarchical level of the corresponding one of the retrieved records.

Claim 5 (original): The method of claim 2, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

modifying the tag comprises:

selecting at least one of the digits according to the command from the user; and

changing the value of the selected digits according to the command from the user.

Claim 6 (original): The method of claim 2, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the children of the identified record; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth of the identified record; and

setting the value of each digit corresponding to a hierarchical depth below the hierarchical depth corresponding to the selected digit to a wildcard value.

Claim 7 (original): The method of claim 2, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the parent of the identified record; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth of the identified record; and

setting the value of the selected digit to a null value.

Claim 8 (original): The method of claim 2, wherein each of the records represents one of a message and a folder.

Claim 9 (withdrawn): A method for adding a new record to a hierarchical set of records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records in the hierarchical set of records having a tag that is unique within the hierarchical set of records, the method comprising:

identifying one of the records in the hierarchical set of records as the parent of the new record;

modifying the tag, thereby producing a key;

adding the key to the new record; and

indexing the hierarchical set of records only once, thereby adding the new record to the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records.

Claim 10 (withdrawn): The method of claim 9, wherein identifying one of the records comprises:

receiving a selection of the one of the records from a user.

Claim 11 (withdrawn): The method of claim 10, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the identified record represents a message;

identifying one of the records further comprises receiving a command from the user that requests replying to the message; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth immediately below the hierarchical depth of the identified record; and

incrementing the value of the selected digit.

Claim 12 (withdrawn): The method of claim 9, wherein applying comprises: selecting those of the records in the hierarchical set of the records having a tag that matches the key.

Claim 13 (withdrawn): The method of claim 9, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths; and

the value of each of the digits represents one of the hierarchical levels.

Claim 14 (currently amended): A method for selecting a record in a hierarchical set of records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records; and

indexing the hierarchical set of records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the modified tag to the hierarchical set of records.

Claim 15 (original): The method of claim 14, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths; and

the value of each of the digits represents one of the hierarchical levels.

Claim 16 (previously presented): The method of claim 14, wherein applying comprises:

selecting those of the records in the hierarchical set of the records having a tag that matches the modified tag.

Claim 17 (currently amended): At least one computer programmed to execute a process for retrieving records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the process comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Claim 18 (currently amended): The computer of claim 17 1, wherein applying comprises:

selecting those of the record in the hierarchical set of the records having a tag that matches the key.

Claim 19 (original): The computer of claim 18, wherein identifying one of the records comprises:

receiving a selection of the one of the records from a user; and

receiving a command from the user; and wherein

modifying the tag is based on the command from the user.

Claim 20 (original): The computer of claim 19, wherein each of the records has one or more fields, and the process further comprises:

displaying a field of each of the retrieved records on a display, wherein the position of each of the fields on the display represents the hierarchical depth and hierarchical level of the corresponding one of the retrieved records.

Claim 21 (original): The computer of claim 18, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

modifying the tag comprises:

selecting at least one of the digits according to the command from the user; and

changing the value of the selected digits according to the command from the user.

Claim 22 (original): The computer of claim 18, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the children of the identified record; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth of the identified record; and

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setting the value of each digit corresponding to a hierarchical depth below the hierarchical depth corresponding to the selected digit to a wildcard value.

Claim 23 (original): The computer of claim 18, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the parent of the identified record; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth of the identified record; and

setting the value of the selected digit to a null value.

Claim 24 (original): The computer of claim 18, wherein each of the records represents one of a message and a folder.

Claim 25 (withdrawn): At least one computer programmed to execute a process for adding a new record to a hierarchical set of records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records in the hierarchical set of records having a tag that is unique within the hierarchical set of records, the process comprising:

identifying one of the records in the hierarchical set of records as the parent of the new record;

modifying the tag, thereby producing a key;

adding the key to the new record; and

indexing the hierarchical set of records only once, thereby adding the new record to the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records.

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Claim 26 (withdrawn): The computer of claim 25, wherein identifying one of the records comprises:

receiving a selection of the one of the records from a user.

Claim 27 (withdrawn): The computer of claim 26, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the identified record represents a message;

identifying one of the records further comprises receiving a command from the user that requests replying to the message; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth immediately below the hierarchical depth of the identified record; and

incrementing the value of the selected digit.

Claim 28 (withdrawn): The computer of claim 25, wherein applying comprises:

selecting those of the records in the hierarchical set of the records having a tag that matches the key.

Claim 29 (withdrawn): The computer of claim 25, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths; and

the value of each of the digits represents one of the hierarchical levels.

Claim 30 (currently amended): At least one computer programmed to execute a process for selecting records in a hierarchical set of the records having a plurality

of hierarchical levels and a plurality of hierarchical depths, each of the records

having a tag that is unique within the hierarchical set of the records, the process

comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the

identified record that comprises a depth relationship or a level relationship or

both;

modifying the tag based on the relational characteristic and a

predetermined numeric mapping of related records; and

indexing the hierarchical set of records only once, thereby selecting the

second record within the hierarchical set of records, wherein indexing the

hierarchical set of records only once comprises applying the modified tag to the

hierarchical set of records.

Claim 31 (original): The computer of claim 30, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

and

the value of each of the digits represents one of the hierarchical levels.

Claim 32 (previously presented): The computer of claim 30, wherein applying

comprises:

selecting those of the records in the hierarchical set of the records having

a tag that matches the modified tag.

Claim 33 (currently amended): An apparatus for retrieving records in a

hierarchical set of the records having a plurality of hierarchical levels and a

plurality of hierarchical depths, each of the records having a tag that is unique

within the hierarchical set of the records, the apparatus comprising:

means for identifying one of the records in the hierarchical set of records;

means for selecting a second record by indicating a relational characteristic of the identified record, wherein the relational characteristic comprises a depth relationship or a level relationship or both;

means for modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

means for indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein means for indexing the hierarchical set of the records only once comprises means for applying the key to the hierarchical set of records; and

means for retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Claim 34 (currently amended): The apparatus of claim 33 1, wherein means for applying comprises:

means for selecting those of the records in the hierarchical set of the records having a tag that matches the key.

Claim 35 (original): The apparatus of claim 34, wherein means for identifying one of the records comprises:

means for receiving a selection of the one of the records from a user; and

means for receiving a command from the user; and wherein

modifying the tag is based on the command from the user.

Claim 36 (original): The apparatus of claim 35, wherein each of the records has one or more fields, further comprising:

means for displaying a field of each of the retrieved records on a display, wherein the position of each of the fields on the display represents the hierarchical depth and hierarchical level of the corresponding one of the retrieved records.

Claim 37 (original): The apparatus of claim 34, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

means for modifying the tag comprises:

means for selecting at least one of the digits according to the command from the user; and

means for changing the value of the selected digits according to the command from the user.

Claim 38 (original): The apparatus of claim 34, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the children of the identified record; and

means for modifying the tag comprises:

means for selecting the digit corresponding to the hierarchical depth of the identified record; and

means for setting the value of each digit corresponding to a hierarchical depth below the hierarchical depth corresponding to the selected digit to a wildcard value.

Claim 39 (original): The apparatus of claim 34, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the parent of the identified record; and

means for modifying the tag comprises:

means for selecting the digit corresponding to the hierarchical depth of the identified record; and

means for setting the value of the selected digit to a null value.

Claim 40 (original): The apparatus of claim 34, wherein each of the records represents one of a message and a folder.

Claim 41 (withdrawn): An apparatus for adding a new record to a hierarchical set of records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records in the hierarchical set of records having a tag that is unique within the hierarchical set of records, the apparatus comprising:

means for identifying one of the records in the hierarchical set of records as the parent of the new record;

means for modifying the tag, thereby producing a key;

means for adding the key to the new record; and

means for indexing the hierarchical set of records only once, thereby adding the new record to the hierarchical set of records, wherein means for indexing the hierarchical set of records only once comprises means for applying the key to the hierarchical set of records.

Claim 42 (withdrawn): The apparatus of claim 41, wherein means for identifying one of the records comprises:

means for receiving a selection of the one of the records from a user.

Claim 43 (withdrawn): The apparatus of claim 42, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the identified record represents a message;

means for identifying one of the records further comprises means for receiving a command from the user that requests replying to the message; and means for modifying the tag comprises:

means for selecting the digit corresponding to the hierarchical depth immediately below the hierarchical depth of the identified record; and

means for incrementing the value of the selected digit.

Claim 44 (withdrawn): The apparatus of claim 41, wherein means for applying comprises:

means for selecting those of the records in the hierarchical set of the records having a tag that matches the key.

Claim 45 (withdrawn): The apparatus of claim 41, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths; and

the value of each of the digits represents one of the hierarchical levels.

Claim 46 (currently amended): An apparatus for selecting records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the apparatus comprising:

means for identifying one of the records in the hierarchical set of records;

means for selecting a second record by indicating a relational characteristic of the identified record, wherein the relational characteristic comprises a depth relationship or a level relationship or both;

means for modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records; and

means for indexing the hierarchical set of records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the modified tag to the hierarchical set of records.

Claim 47 (original): The apparatus of claim 46, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths; and

the value of each of the digits represents one of the hierarchical levels.

Claim 48 (previously presented): The apparatus of claim 46, wherein means for applying comprises:

means for selecting those of the records in the hierarchical set of the records having a tag that matches the modified tag.

Claim 49 (currently amended): Computer-readable media embodying instructions executable by a computer to perform a method for retrieving records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both ;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Claim 50 (currently amended): The media of claim 49 1, wherein applying comprises:

selecting those of the record in the hierarchical set of records having a tag that matches the key.

Claim 51 (original): The media of claim 50, wherein identifying one of the records comprises:

receiving a selection of the one of the records from a user; and

receiving a command from the user; and wherein

modifying the tag is based on the command from the user.

Claim 52 (original): The media of claim 51, wherein each of the records has one or more fields, the method further comprising:

displaying a field of each of the retrieved records on a display, wherein the position of each of the fields on the display represents the hierarchical depth and hierarchical level of the corresponding one of the retrieved records.

Claim 53 (original): The media of claim 50, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

modifying the tag comprises:

selecting at least one of the digits according to the command from the user; and

changing the value of the selected digits according to the command from the user.

Claim 54 (original): The media of claim 50, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the children of the identified record; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth of the identified record; and

setting the value of each digit corresponding to a hierarchical depth below the hierarchical depth corresponding to the selected digit to a wildcard value.

Claim 55 (original): The media of claim 50, wherein:

each tag is a number having a plurality of digits;

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the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the command from the user requests retrieving the parent of the identified record; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth of the identified record; and

setting the value of the selected digit to a null value.

Claim 56 (original): The media of claim 50, wherein each of the records represents one of a message and a folder.

Claim 57 (withdrawn): Computer-readable media embodying instructions executable by a computer to perform a method for adding a new record to a hierarchical set of records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records in the hierarchical set of records having a tag that is unique within the hierarchical set of records, the method comprising:

identifying one of the records in the hierarchical set of records as the parent of the new record;

modifying the tag, thereby producing a key;

adding the key to the new record; and

indexing the hierarchical set of records only once, thereby adding the new record to the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records.

Claim 58 (withdrawn): The media of claim 57, wherein identifying one of the records comprises:

receiving a selection of the one of the records from a user.

Claim 59 (withdrawn): The media of claim 58, wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels;

the identified record represents a message;

identifying one of the records further comprises receiving a command from the user that requests replying to the message; and

modifying the tag comprises:

selecting the digit corresponding to the hierarchical depth immediately below the hierarchical depth of the identified record; and

incrementing the value of the selected digit.

Claim 60 (withdrawn): The media of claim 57, wherein applying comprises:

selecting those of the records in the hierarchical set of the records having a tag that matches the key.

Claim 61 (withdrawn): The media of claim 57, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths; and

the value of each of the digits represents one of the hierarchical levels.

Claim 62 (currently amended): Computer-readable media embodying instructions executable by a computer to perform a method for selecting records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record <u>that comprises a depth relationship or a level relationship or both</u>;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records; and

indexing the hierarchical set of records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the modified tag to the hierarchical set of records.

Claim 63 (original): The media of claim 62, wherein:

each tag includes a plurality of digits;

the position of each of the digits represents one of the hierarchical depths; and

the value of each of the digits represents one of the hierarchical levels.

Claim 64 (previously presented): The media of claim 62, wherein applying comprises:

selecting those of the records in the hierarchical set of the records having a tag that matches the modified tag.

Claim 65 (withdrawn): A method of tagging a datum in a hierarchical data set having a plurality of hierarchical levels and a plurality of hierarchical depths, the method comprising:

determining a hierarchical level of the datum;

determining a hierarchical depth of the datum; and

assigning a tag to the datum, comprising:

determining the immediate parent of the datum;

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selecting a tag of the immediate parent of the datum, wherein the tag is a number having multiple digits each representing one of the hierarchical depths of the hierarchical data set;

selecting a digit of the selected tag that represents the hierarchical depth of the datum;

assigning a value to the selected digit, the value representing the hierarchical level of the datum.

Claim 66 (withdrawn): The method of claim 65, wherein assigning a value to the selected digit comprises:

determining the number of children of the immediate parent of the datum that have already been tagged;

incrementing the number of children to obtain an incremented number; and

setting the value of the selected digit to equal the value of the incremented number.

Claim 67 (withdrawn): The method of claim 65, wherein:

each datum represents a message;

the child of a datum represents a reply to the message represented by the datum; and

the parent of a datum represents a message, a reply to which is represented by the datum.

Claim 68 (withdrawn): The method of claim 65, wherein:

each datum represents a container;

the child of a datum represents a container within the container represented by the datum; and

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the parent of a datum represents a container which contains the container represented by the datum.

Claim 69 (withdrawn): At least one computer programmed to execute a process for tagging a datum in a hierarchical data set having a plurality of hierarchical levels and a plurality of hierarchical depths, the process comprising:

determining a hierarchical level of the datum;

determining a hierarchical depth of the datum; and

assigning a tag to the datum, comprising:

determining the immediate parent of the datum;

selecting a tag of the immediate parent of the datum, wherein the tag is a number having multiple digits each representing one of the hierarchical depths of the hierarchical data set;

selecting a digit of the selected tag that represents the hierarchical depth of the datum;

assigning a value to the selected digit, the value representing the hierarchical level of the datum.

Claim 70 (withdrawn): The computer of claim 69, wherein assigning a value to the selected digit comprises:

determining the number of children of the immediate parent of the datum that have already been tagged;

incrementing the number of children to obtain an incremented number; and

setting the value of the selected digit to equal the value of the incremented number.

Claim 71 (withdrawn): The computer of claim 69, wherein:

each datum represents a message;

the child of a datum represents a reply to the message represented by the datum; and

the parent of a datum represents a message, a reply to which is represented by the datum.

Claim 72 (withdrawn): The computer of claim 69, wherein:

each datum represents a container;

the child of a datum represents a container within the container represented by the datum; and

the parent of a datum represents a container which contains the container represented by the datum.

Claim 73 (withdrawn): An apparatus for tagging a datum in a hierarchical data set having a plurality of hierarchical levels and a plurality of hierarchical depths, the apparatus comprising:

means for determining a hierarchical level of the datum;

means for determining a hierarchical depth of the datum; and

means for assigning a tag to the datum, comprising:

means for determining the immediate parent of the datum;

means for selecting a tag of the immediate parent of the datum, wherein the tag is a number having multiple digits each representing one of the hierarchical depths of the hierarchical data set;

means for selecting a digit of the selected tag that represents the hierarchical depth of the datum;

means for assigning a value to the selected digit, the value representing the hierarchical level of the datum.

Claim 74 (withdrawn): The apparatus of claim 73, wherein means for assigning a value to the selected digit comprises:

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means for determining the number of children of the immediate parent of the datum that have already been tagged;

means for incrementing the number of children to obtain an incremented number; and

means for setting the value of the selected digit to equal the value of the incremented number.

Claim 75 (withdrawn): The apparatus of claim 73, wherein:

each datum represents a message;

the child of a datum represents a reply to the message represented by the datum; and

the parent of a datum represents a message, a reply to which is represented by the datum.

Claim 76 (withdrawn): The apparatus of claim 73, wherein:

each datum represents a container;

the child of a datum represents a container within the container represented by the datum; and

the parent of a datum represents a container which contains the container represented by the datum.

Claim 77 (withdrawn): Computer-readable media embodying instructions executable by a computer to perform a method for tagging a datum in a hierarchical data set having a plurality of hierarchical levels and a plurality of hierarchical depths, the method comprising:

determining a hierarchical level of the datum;

determining a hierarchical depth of the datum; and

assigning a tag to the datum, comprising:

determining the immediate parent of the datum;

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selecting a tag of the immediate parent of the datum, wherein the tag is a number having multiple digits each representing one of the hierarchical depths of the hierarchical data set;

selecting a digit of the selected tag that represents the hierarchical depth of the datum;

assigning a value to the selected digit, the value representing the hierarchical level of the datum.

Claim 78 (withdrawn): The media of claim 77, wherein assigning a value to the selected digit comprises:

determining the number of children of the immediate parent of the datum that have already been tagged;

incrementing the number of children to obtain an incremented number; and

setting the value of the selected digit to equal the value of the incremented number.

Claim 79 (withdrawn): The media of claim 77, wherein:

each datum represents a message;

the child of a datum represents a reply to the message represented by the datum; and

the parent of a datum represents a message, a reply to which is represented by the datum.

Claim 80 (withdrawn): The media of claim 77, wherein:

each datum represents a container;

the child of a datum represents a container within the container represented by the datum; and

the parent of a datum represents a container which contains the container represented by the datum.

Claim 81 (withdrawn): A unique tag for a datum in a hierarchical data set having a plurality of hierarchical levels and a plurality of hierarchical depths, comprising:

a number having a plurality of digits, each digit representing one of the hierarchical depths of the hierarchical data set; and wherein

the position of the least-significant non-zero digit represents the hierarchical depth of the datum;

the value of the least-significant non-zero digit represents the hierarchical level of the datum; and

the digits that are more significant than the least-significant non-zero digit represent parents of the datum.

Claim 82 (withdrawn): A memory for storing data for access by an application program being executed on a data processing system, comprising:

a data structure stored in the memory, the data structure comprising a hierarchical data set having a plurality of hierarchical levels and a plurality of hierarchical depths, the hierarchical data set comprising a unique tag for a datum comprising:

a number having a plurality of digits, each digit representing one of the hierarchical depths of the hierarchical data set; and wherein

the position of the least-significant non-zero digit represents the hierarchical depth of the datum;

the value of the least-significant non-zero digit represents the hierarchical level of the datum; and

the digits that are more significant than the least-significant non-zero digit represent parents of the datum.